

*A Story of
Shears and Scissors*

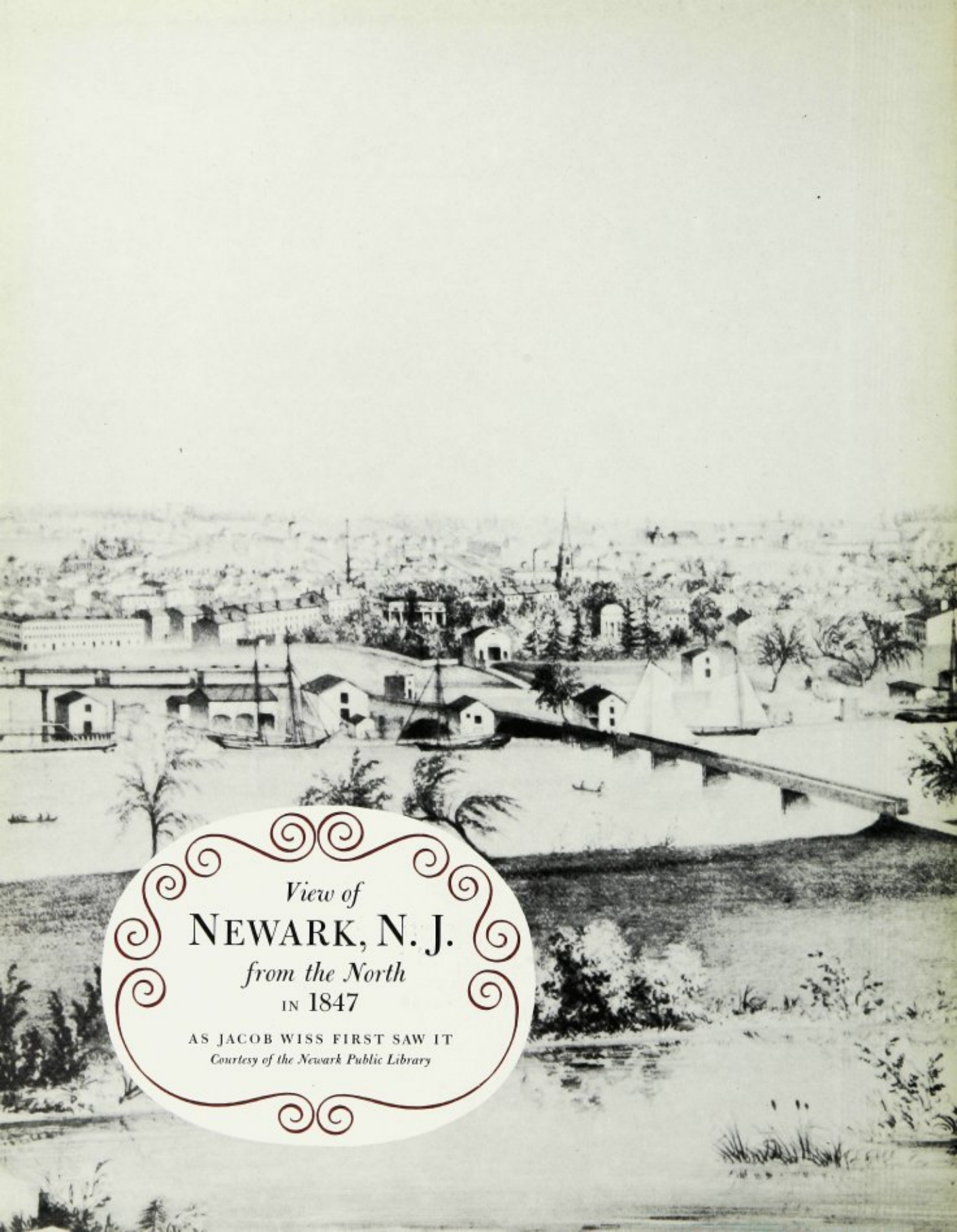


J. WISS & SONS CO.

1848-1948

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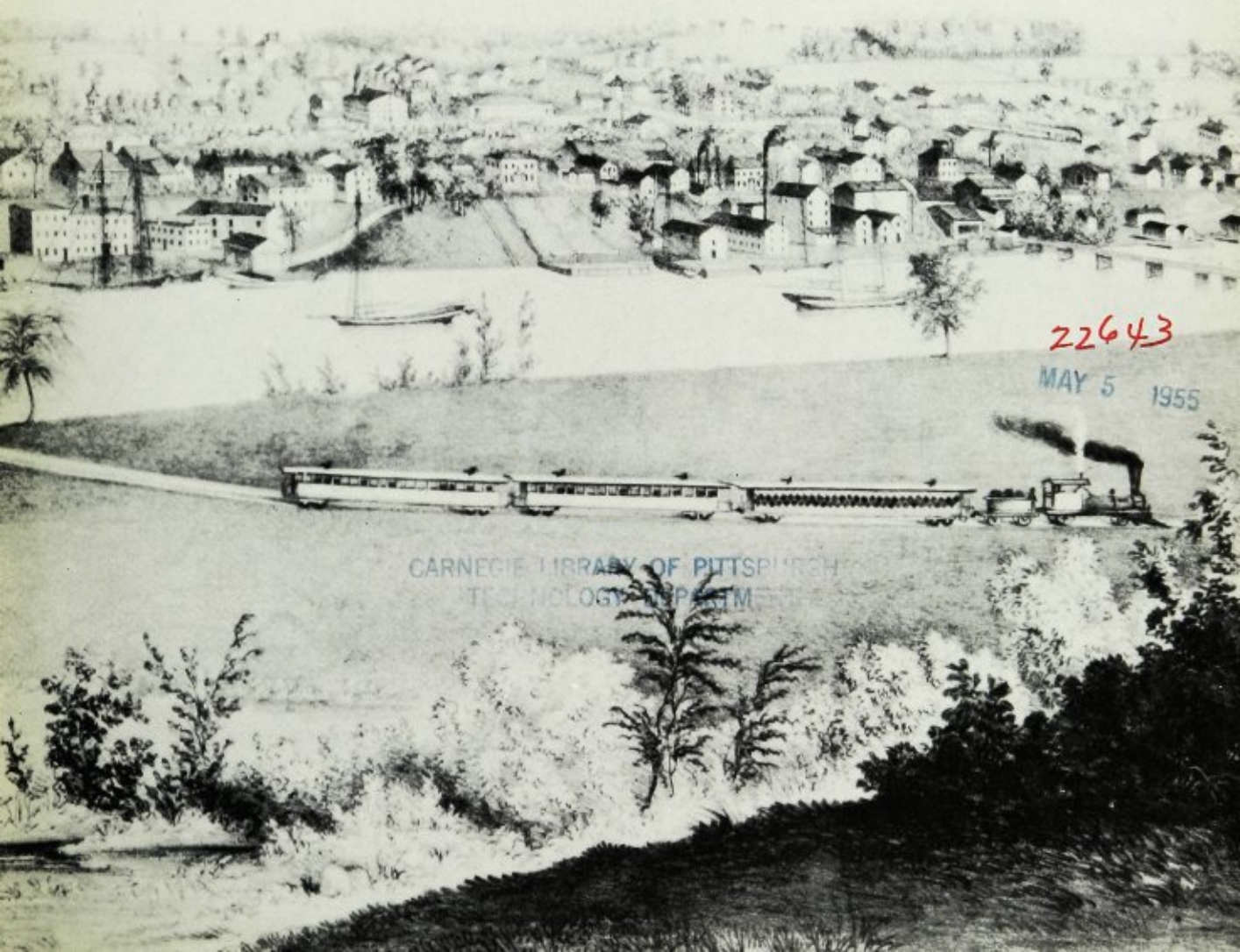
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View of
NEWARK, N. J.
from the North
IN 1847

AS JACOB WISS FIRST SAW IT
Courtesy of the Newark Public Library

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A Story of Shears and

Scissors

Their origin and growth in the Old World and the New, with particular emphasis on the development of the arts of making and selling fine quality shears and scissors in America...which parallels the first hundred years of J. Wiss & Sons Co.

1848-1948



DEDICATION

TO THE EMPLOYEES OF J. WISS & SONS CO., PAST AND
PRESENT, WHOSE LOYALTY AND COOPERATION OVER THE
YEARS HAVE MADE OUR ACHIEVEMENTS POSSIBLE...AND
TO OUR FAITHFUL CUSTOMERS WHO HAVE SUPPORTED
US SO GENEROUSLY, THIS HISTORY IS DEDICATED.

In appreciation,


PRESIDENT
J. WISS & SONS CO.

Newark, N. J.
September, 1948

*"We are but the two halves of a pair of scissors, when apart . . .
but together we are something."*

Dickens, *Martin Chuzzlewit*,
Chapter 5



PREFATORY NOTE

THE WORD "SCISSORS" apparently derives from the Latin word "cisoria," meaning a cutting instrument, and the spelling is due to a confusion with the Latin word "scissor," a form of the verb "scindere," meaning to cut.

The word appears in Old French between 842-1300 A.D. as "cisoires," from which the Modern French word "ciseaux" derives. In late Middle English about 1400 A.D. there is found reference to "sisours" and "cysowres." The word "shears" apparently has quite a different derivation, originating from the Teutonic root "sker," which later changed to "skeresa" and then "skaerizo." The Old English word "scear" derives from the same root.



Egyptian bronze shears of the Third Century B.C., a unique object of art. Showing Greek influence although with decoration characteristic of Nile culture, the shears are illustrative of the high degree of craftsmanship which developed in the period following Alexander's conquest of Egypt. Decorative male and female figures, which complement each other on each blade, are formed of solid pieces of metal of a different color inlaid in the bronze of the shears.

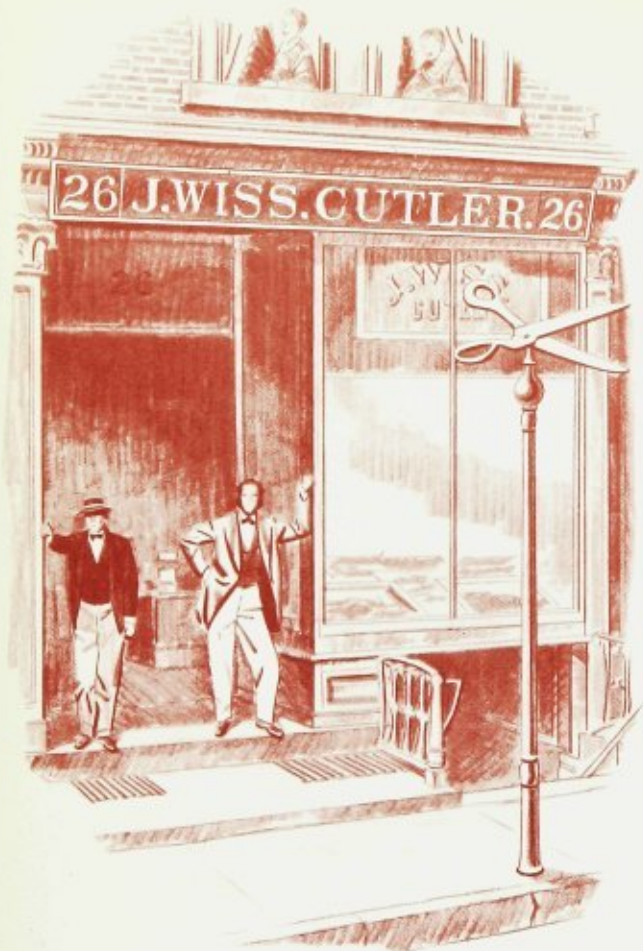
Courtesy of the Metropolitan Museum of Art

CHAPTER ONE

EUROPE'S DIFFICULTIES have created America's opportunities. When Jacob Wiss, a native of Switzerland, sailed for America in 1847, Europe was in a state of economic and political ferment. In fact, the whole decade of 1840-50 was a period of revolutionary ideas in religion, philosophy and industry.

New inventions affecting transport, manufacturing and communication were announced. Howe had perfected the sewing machine, Morse the telegraph, and America heard and began to understand the significance of the term "Manifest Destiny" as Texas and California were added to our domains. By 1848, when Jacob Wiss, the young cutler and gunsmith, tarried at Newark, N. J. to fortify his resources before heading southwest to Texas, the ferment of Europe's affairs had come to a fast boil. A series of revolts in the German states alarmed thousands of craftsmen and peasants who looked toward America as a haven. In France the turmoil caused Louis Philippe to abdicate and brought Bismark to power in Germany. The costs of war armament had drained royal and private wealth all over Europe. England with its vast empire had poverty at home, especially amid her armies of textile workers. A potato famine in Ireland reached the stage of a national calamity. That same year an obscure German philosopher named Karl Marx issued his Communist Manifesto.

The serene horizon America offered to suffering Europe became doubly alluring with the discovery of gold in California in 1848. The flood gates of a troubled continent were opened and people poured into the coastal cities of America to become both producers and consumers of an endless flow of goods.



*The Wiss Shop at 26 Bank Street, Newark, N. J.
circa 1855.*

WHEN JACOB WISS came to Newark in 1847, Newark had already attracted attention as an industrial center. Seth Boyden had invented a process for making ductile iron castings, and his foundry was soon turning out castings which could be welded or faced with steel.

Rochus Heinisch, a clever Austrian cutler, had come to America in 1825 and later perfected his method of facing malleable iron with steel in shear manufacturing. By 1847, he had built up a substantial business in the manufacture of shears and cutlery, and orders came from all the trading centers of America for Heinisch products.

Jacob Wiss went to work for Heinisch. As he learned about the new developments he made two decisions: the first, not to settle in Texas as he had intended but to stay in Newark where he was making friends: the second, to enter the cutlery manufacturing trade for himself. The beginning was not easy. Tools and machines had to be improvised. Drop hammers operated by hand were used for welding the cutlery steel blades to the malleable iron shear frames. Cutlery was laboriously ground on natural stone. Wheels for polishing were hand made of wood, and the perimeter was built up with a surface of beeswax, tallow and emery.

He started his business in 1848, using a dog in a treadmill to power his grinding and polishing wheels. Jacob Wiss soon demonstrated his skill as an artisan, and his ability as teacher of craftsmen. He was patient as a teacher of apprentices but impatient as a critic of careless workmen. By 1854, Jacob Wiss had outgrown his space at 7 Bank Street, Newark, and he moved to larger quarters at 13 and then later to 26 Bank Street. During this period, Jacob was not too busy to think of the future. In 1849 he married and settled down to his career as a businessman of the community. With a true competitive spirit he advertised his shears, and those who bought them told others about the wonderful shears that cut without chewing and seemed to retain their superior qualities for an unusually long time. The City of Newark also profited by the growing reputation of Wiss and Heinisch, the two outstanding manufacturers of quality shears in America.

Two sons were born to Jacob Wiss: Frederick, in 1858 and Louis, in 1860. From his earliest childhood Frederick evinced curiosity in his father's shop which was only a few doors down Bank Street. Dog-power had changed to steam, and the names on the payroll had grown in number. By the time Frederick C. J. Wiss was in his teens, he had learned the business.

During the War Between the States the Wiss shop was called upon to make surgical scissors for the Union Army doctors and nurses, and tailors' shears to cut uniforms for the soldiers. This experience led to many improvements in the design and manufacture of shears and scissors. The market for ladies' scissors spread rapidly with the development of the sewing machine and the lowering of the cost of textiles, especially cotton cloth from American looms in New England.

When Jacob Wiss died in 1880 his son Frederick took the reins of management at the age of 22, having actually managed the business during his father's illness from the time he was 17. This was a period of tremendous growth in the United States with the center of population moving rapidly past the Appalachians into the plains south of the Great Lakes.



A St. Bernard dog in a treadmill supplied the power for the first Wiss grinding and polishing wheels.



The men's tailor of 1840 "marked customers' dimensions with scissors on a narrow strip of paper."

Homespun were giving way to the yard goods of the cotton and woolen mills, and milady's tasks were growing a little easier and her taste increasingly style-conscious. The pride of her home was often a cushion of good needles and a pair of Wiss scissors, which she treasured as carefully as her jewelry. Not many precision tools were made in America prior to the War Between the States. European craftsmen had the edge over their American cousins, and the Sheffield cutlery and French and Swiss silverware and watches were preferred by American buyers over home products. The imported shears and scissors, however, could not maintain their market among fastidious buyers, because in actual use the English or Continental products lacked the strength, balance and cutting edge of the Newark shears and scissors. Tailors were aware of this and insisted on the American product. The superiority of Wiss shears was pressed by Frederick C. J. Wiss in an aggressive sales program, not only in the American markets, but also abroad. Late in the 19th Century Frederick Wiss received impartial and personal testimony to the quality of his product. He was in England, visiting Sheffield, the center of England's cutlery manufacture, and in a bit of curious mischief, said to a shopkeeper "Let me see your finest pair of shears." "Yes sir," said the man, as Frederick stared into a large case of Sheffield wares. "They're not in there, sir." From beneath the case he drew a pair of shears and laid them upon the glass. "These are the finest shears available anywhere." Frederick couldn't conceal a glow of satisfaction when he observed the Wiss trademark.

A Wiss advertisement of 1853.



The milliner of the 1840's used scissors to "manufacture and repair bonnets and hats for ladies and children."



It was in 1880 that Louis T. Wiss joined his brother in the firm. Seven years later the retail and manufacturing functions of the business were separated and a show room and retail sales shop opened on Broad Street, Newark. This store, now a separate company with Jerome B. Wiss — son of Louis T. Wiss — as its president, is one of the largest retail jewelry stores in New Jersey. The shears manufacturing business felt an additional impetus from the industrial expansion of the 80's, and the sons of Jacob Wiss decided upon a move of major significance. They acquired a large tract of land facing Littleton Avenue, "on the hill" in Newark, and built their factory to meet the production needs of the business. The wheels in the new plant started to turn in 1887, and they are still turning at the same location, with constant modernization and enlargement of the property taking place to meet continuing growth. This development met several temporary obstacles when tariff barriers were lowered, and cheap inferior European scissors and shears flooded the market, but when one product slumped in sales, there was always another to pick up and give the business a fresh surge ahead.

Frederick C. J. Wiss inherited from his father an appreciation of superb craftsmanship, but he also revealed the vision that has characterized the leadership of successful American enterprises. While people did search out the little shop of Jacob Wiss to get his fine shears, Frederick was too much of a realist to wait for customers; so he went out into domestic and foreign markets to sell his wares. His skill as a merchant equalled his executive abilities. In his office hung this motto: "The recollection of quality remains long after price is forgotten."

Wiss trademark of the '80's.

J. WISS & SONS.
NEWARK, N. J.



In 1906, the first power drop hammers were installed.

The Wiss plant kept pace with inventive improvements, and in 1906, the first power drop hammers for hot forging steel shears frames were installed in the Littleton Avenue factory. These enabled Wiss to weld tough high-carbon steel blades to rugged frames of softer steel, making for the first time truly unbreakable shears and scissors which have no superior.

"Marriage resembles a pair of shears, so joined that they cannot be separated; often moving in opposite directions, yet always punishing anyone who comes between them.

Sidney Smith, *Lady Holland's Memoir*
Volume I, Chapter 10

CHAPTER TWO

THE TURN OF THE CENTURY is a convenient point in our narrative to pause and consider the history and evolution of shears as a servant of mankind. Science follows evidence of shears back to the third century before Christ, but it is likely that they are almost as ancient as the primitive loom upon which the first wool was spun.

Shears are identified with Greek myths and early illustrations of the "Fates" show Clotho spinning the thread of life, Lachesis winding it to the length she chooses and Atropos, the "inflexible one," snipping the thread of life with her shears. Sir Flinders Petrie, the celebrated archeologist, credits the Italian shepherds of the Third Century B.C. with their invention, but it is probably truer that shears were rather the product of several cultures.

All of the early shears had two things in common — their design and primary function. The Greek, Roman or Egyptian shears had a bow spring back with thin hardened blades working against each other under the pressure of the hand. The Romans called them *forfex*, or *forfices*, and an early illustration shows them over a reclining ewe. Many sheepherders, in clipping wool, even to this day prefer the bow-back hand shears to the power clippers which may damage the hide of the sheep. The Romans also used their shears for trimming myrtles and hedges, as well as cutting the hair of the well-appointed nobles and dandies of the emperor's court. Sir Flinders Petrie ascribes the development of cross-bladed shears to the First Century. One of the first



Primitive shears of the La Tene II period in Switzerland (500 B.C. to A.D. 100), forged of a single bar of iron.



The first cross-bladed shears with a center pivot are attributed to the First Century.

written references to cross-bladed shears or scissors with a center pivot was made in the Fifth Century by the scribe Isidore, of Seville, who describes them as tools of the barber and tailor.

Among the earliest surviving shears is a pair, Egyptian in origin, attributed to the Third Century B.C., a comparatively late period in the culture of the remarkable residents of the Nile Valley. Late in the Nineteenth Century an ancient tomb was unearthed containing a woman's work basket which incited the imagination of students of the customs, duties and diversions of the Egyptian women. In the basket were a variety of needles, pins, combs, and a pair of bronze shears inlaid in silver with design of unusual artistry.

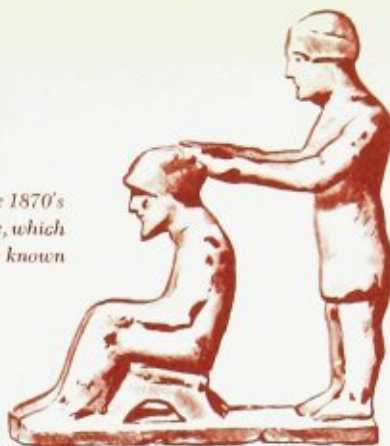
It is apparent that scissors are almost as old as the use of metals, and it might be well to follow their manufacture and technical advance from the first efforts of craftsmen by the Nile down the twenty-two intervening centuries to the craftsmen in New Jersey. Science and invention have provided many improvements in the quality of shears, but never eliminated the necessity for individual craftsmanship in the production of quality shears and scissors. The first primitive shears are easy to visualize in the making. A bar of iron was taken from the forge and its ends were flattened and shaped on a smooth stone or crude anvil. The center was heated, tempered and bent till the blade surfaces touched. George Grant MacCurdy in "Human Origins" tells us that a dozen pairs of shears of this style were found in graves of the La Tene period in France, and are attributed to the latter phase of the Iron Age, from 500 B.C. to A.D. 100. Authorities agree that the best shears, swords,

Arabian shears, after Albucasis, famous Arabian surgical writer of Cordoba, (1013-1106) whose work, the Altasrif ("Collections") was the leading text book on surgery during the Middle Ages and contains illustrations of scissors which are among the earliest known today.



and knives were made by individuals of great skill, and that this skill is reflected in the experiments of the sword makers of Damascus who welded twisted strips of metal of varying quality to obtain the cutting edge and toughness that characterized their superior blades. Experiments made by the artisans in the Wiss plant revealed that the welding of two grades of metals

Early barbering from a statue found in the 1870's at Tanagra, ancient town of Boetia, Greece, which existed from 600 B.C. to 1300 A.D. and is known for its figurines of the pre-Christian era.



produced the best shears. Jacob Wiss brought the making of shears and scissors to a fine art in America, and enabled this country to surpass rapidly the techniques of shears-making in the cutlery centers of Europe.

The toughness of Damascus steel is a reality, the toughness of King Arthur's sword a legend, but all legends have roots in time and place. Early medieval craftsmen did learn how to make blades that split the warrior's coat of mail without breaking. This hereditary art was not lost but was passed along from father to son. Rochus Heinisch brought with him from Austria and France the accumulated skill of generations of cutlery makers, and Jacob Wiss with the heritage of precision craftsmanship which belongs to the Swiss, brought his special skill to his trade at Newark. The circumstances that brought Seth Boyden, Rochus Heinisch and Jacob Wiss together to give Newark its eminence as a world center of shears and scissors manufacturing had its origin generations before in the family craftsmen of Europe. The guilds of England, Germany, France, and Italy which flourished in the long transition from the feudal system, were created to protect craft secrets and to maintain craft standards. This led to the development of special skills and techniques which passed from father to son, and many a fine idea was lost to posterity as a result of this selfish hoarding of craft information. However, one obvious benefit was the maintenance of a family in a trade, and with it, the responsibility of maintaining the integrity of a family name, which in some instances even took on the identity of the craft – Taylor, Carpenter, Cutler, Mason, Mercer, Weaver, to mention a few. Frequently the functions of manufacturing were scattered through whole villages on a contract or piece-work basis. An article written in 1915 describes the old practice of

Shears of the Sixteenth Century with expanded spring back bent to bring the blades closer together.



Seal of the French Guild of Tailors, dating from 1647.

*Long-bladed
scissors of
ornamented steel,
Sixteenth Century.*



the cutlers of Thiers, France: "With its cutlery shops scattered along the water's brink on the right bank of the turbulent Durolle, Thiers is one of the most picturesque villages of France. Built one after the other at the bottom of the valley, these curious workshops known throughout the district as 'wheels', contain each some 6 to 12 grindstones, and in the course of a year thousands of blades are sharpened on them. The workman, it should be said, labors as he pleases in these shops, as he is merely a tenant of the place he occupies in return for a rent of 80 to 100 francs a year to the owner of the 'wheel'. Thus, he preserves his liberty and comes when he sees fit to perform his severe task."

That these cutlers were men of great skill is not to be questioned, but that they worshipped tradition is just as apparent. The master cutler insisted on following the inherited formula of grinding his blades on natural stone and polishing on a large wooden wheel. Some of these wheels are still in use in European towns, and no amount of example or persuasion can coax the old cutler into accepting a power wheel equipped with modern abrasives. Wiss craftsmanship reflected an early influence of the family tradition, but father, son and grandson in a new environment rapidly accepted the benefits of power and factory equipment, and shared their talents and knowledge willingly for the common good and in the interest of making the finest possible product. Many families of two and three generations of service as craftsmen are represented in the Wiss organization.

Technicians describe as many as 176 separate steps in the present-day production of a finished pair of shears from the raw bar steel to the product on the retailer's counter, most of them hand operations requiring expert craftsmanship. The principal operations are forging, grinding, heat treating, polishing, and finishing.

There are four broad categories of shears and scissors: hot drop-forged or forging steel with welded high carbon crucible steel blades, hot drop-forged of a single piece of forging steel, cold-pressed from steel strips, and cast iron. The best shears are drop-forged with welded or inlaid high carbon



*Folding scissors, of the Nine-
teenth Century, which could
be kept safely in the pocket.*



*Iron scissors from Seventeenth Century Italy
with pierced and chiseled decoration.*



Nineteenth Century Thiers on the Durole River in France was famous as a cutlery manufacturing center.

crucible steel blades. They are tough, sharp and unbreakable. The cold-pressed scissors have no temper to enable them to retain sharpness while the cast iron types are brittle and snap under pressure. As late as 1912 tailors' shears were still manufactured of malleable iron with welded crucible steel blades. Often these handles broke and the Wisses decided to attempt to forge tailors' shears of steel. The manufacturers of the drop forging equipment and expert tool and die makers said it would be impossible to make a satisfactory die for tailors' shears because of the contour and complication of the handles. Nevertheless, F. C. J. Wiss believed it could be done. The first die was made in July and August of 1912, mainly on Saturday afternoons and Sundays so as not to interfere with regular work. In the middle of September, after the die had been completed with much effort, it was hardened and tempered and the blocks were set in the hammer. After the first blow the die cracked. In spite of that setback, which occurred only after almost insurmountable odds had already been overcome, Mr. Wiss would not be discouraged and another die was started and put into successful use. The Wiss-perfected "steel forged" process was completed with the welding of inlaid blades of high carbon crucible steel to the forged steel frames of tailors' shears. J. Wiss & Sons Co. has been identified with much of the pioneer work in the improvement and design of shears and scissors of all kinds. The Wiss Company was the first to make its own screws, bolts and nuts and a large force is kept busy fabricating these parts, which must be made to watchmaker accuracy. It was the Wiss Company which first applied the technique of shear making to the production



The famous "Jambes des Princesses"—embroidery scissors with shanks in the shape of a woman's legs were the delight of Eighteenth Century France.

Mexican scissors of the Seventeenth Century. Early ornamental shears were often engraved with the name of the maker.



J. WISS & SONS,

MANUFACTURERS OF BEST QUALITY SCISSORS,
SHEARS, PRUNING SHEARS, &c., 26 BANK STREET.

A carefully detailed examination of what may be called the industries of Newark reveals the fact that many extensive enterprises are carried on in this city which are apart from the ordinary manufactures pertaining to almost every city, and will arouse the interest of the reader not only by their magnitude, but by the prominence which they have achieved. Of such the manufactory of Messrs. J. Wiss & Sons, the character of their work, and the impetus their efforts have given to the general thrift of the community, become fit themes for remark, and as such demand special attention at our hands.

A native of Switzerland, where he was born in 1817, the founder of the business served an apprenticeship to his trade, and having become a practical and ingenious expert in his vocation, he removed to this country in 1847, and settling in Newark, transplanted to the new world the art achieved in the old. Commencing his business upon a limited scale, and retarded by many obstacles, pursuing his calling at a time when the English manufacturers monopolized the market, and when there was great prejudice against American cutlery and tools, Mr. Wiss laid down some rules for his guidance, from which he never deviated and to which his substantial success may be ascribed. These rules pertained mainly to the character of the work, and were rigid in their demands for the highest excellence, only the best quality of goods being produced.

At the death of Mr. J. Wiss, Sr., which occurred about one year ago, the present firm took possession under the style of J. Wiss & Sons, and consists of the sons of the founder, J. Wiss, F. C. J. Wiss, Louis T. Wiss and M. D. Ungrich, under whose management the business has continued to grow and increase until today their products are known to the trade throughout the United States, South America and England.

The manufactory of the firm is located as above, and is one of the largest constructive establishments in the city. The plant consists of three brick buildings, one three stories high, with a basement, covering an area of 40x60 feet; one 25x30 feet, also three stories high, and a two-story building, 25x25 feet. Here are engaged, at the time of writing, fifty operatives, which number, ere this volume reaches our readers, will be increased to one hundred, most of whom are proficient in the work, which is divided in six departments and conducted with systematic precision. The machinery in use, much of which is designed and adapted for the special purposes to which it is applied, is operated by a 30 horse-power engine.

As before intimated, the products of this house are of but one grade, and that the best quality only, and of superior workmanship. Every article is warranted, and such is the reputation of their goods that their stamp is all the guarantee demanded by the trade. They embrace a large number of styles and sizes, many of which have originated with this house, and include scissors, shears, tailors' and pruning shears, paper shears, &c.

For the accommodation of Newarkers Messrs. J. Wiss & Sons have also a salesroom, where any of their products may be had at retail.


For more than thirty years identified with the industries, prosperity and development of Newark, maintaining through all that period an untarnished reputation, we feel at liberty to say that the claims of Messrs. J. Wiss & Sons upon public patronage are second in force to none of their contemporaries.

*Excerpt from the City of
Newark Directory, 1881.*

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J. WISS,
MANUFACTURER OF AND DEALER IN
FANCY CUTLERY,
13 BANK STREET.
POLE PRUNING SHEARS.

BARBERS' SHEARS.




KNIVES,
SHEARS,
GARDEN-
SHEARS,
SCISSORS,
&c.

BANKERS' SHEARS.




BARBERS'
SCISSORS,
PRUNING
SHEARS
AND
KNIVES
OF
Every Variety.


OF HIS OWN MANUFACTURE.
ALL KINDS OF CUTLERY, constantly on hand and Warranted.
PRUNING SHEARS.




TAILORS' SHEARS.



GRINDING, REPAIRING, &c., DONE.



ESTABLISHED 1848.



LADIES' SCISSORS.

of garden cutting tools. Developments in production enabled Wiss to introduce pinking shears on a national scale and to produce kitchen shears which can be used to remove the caps and unscrew the tops of bottles in addition to their cutting function.

Although the sheep shears of our day are still shaped like those of the ancients, there is now an infinite variety of shears and scissors and an equally wide application of their use in the modern world. Technically, the dividing line between a pair of scissors and a pair of shears is an arbitrary measurement. Shears generally measure six inches or more in length, have one small handle for the thumb and the other larger, for the insertion of two or more fingers. The varieties smaller than six inches are usually catalogued as scissors and are made with two small matching handles.

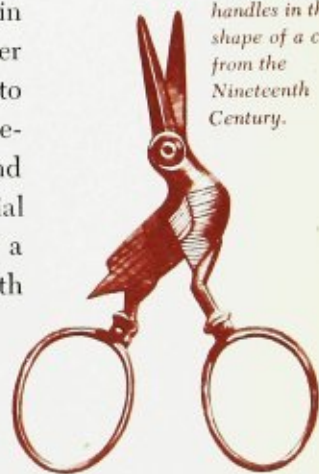
It would be impossible to describe in a limited space all of the uses of shears and scissors. In the modern world they have penetrated to so many levels of ordinary everyday activities that their usefulness is often taken for granted. It is difficult, however, to imagine daily living without scissors. Opening packages and letters, cutting out recipes, cutting thread and cord, making clothes, slipcovers and home accessories, cutting cuticle, trimming nails, hair cutting, picking flowers, darning, cutting samples, patching, cutting out paper dolls, metal work, and upholstery are just a few of the familiar, everyday things which scissors accomplish, but which their absence would make drudgery. Few people stop to think that without scissors many people would not earn a living, or could not do their work properly — such as artists, barbers, chiropodists, doctors, draftsmen, dressmakers, editors, electricians, fruit growers, linoleum and carpet layers, manicurists, nurses, paperhangers, salesclerks, tailors, teachers, upholsterers, and window dressers. In addition to the many styles made to meet individual requirements, each style is often made in several sizes or shapes. Manicure scissors, for example, are made in a number of patterns and quarter-inch size variations between three and four inches to meet the requirements of hand toiletry. The tailoring trade has huge fierce-bladed shears up to sixteen inches in length which cut six to eight inches and several thicknesses of cloth at a bite; also buttonhole scissors with special slotted jaws, and pinking shears with the curious side-bite and molars of a shark. The sheet metal industries require many sizes of short-jawed snips with great leverage from long handles. The orchard and vineyard owners



Italian scissors of the Nineteenth Century with decorated open-work handles.

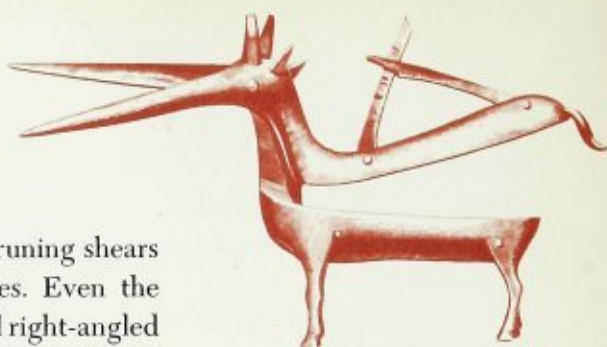


French embroidery scissors with handles in the shape of a castle, from the Nineteenth Century.



French adaptation of the bird-shaped design in nail scissors, early Nineteenth Century.

require assorted types of clippers and pruning shears for the trimming of branches and vines. Even the banker and wealthy investor have special right-angled shears for coupon clipping. The array of shears and scissors produced today is impressive in variety and expressive of the progress that science has made in the past century.*



Steel scissors in the shape of a quadruped, of Persian design, damascened in gold, Eighteenth Century.

"Ho, pretty page, with the dimpled chin,
That never has known the barber's shear,
All you wish is women to win,
That is the way that boys begin,—
Wait until you come to Forty Year."

THACKERAY, *Rebecca and Rowena*

*An index of the major types of shears and scissors is included in the appendix.

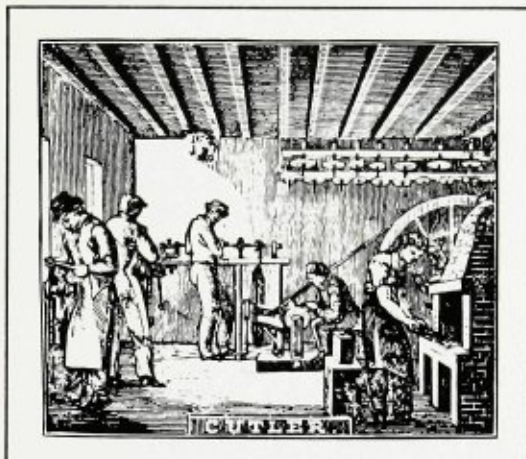


FOOTNOTE

There is an interesting superstition about cutlery which seems of rather ancient origin. It is said that the gift of a sharp-edged tool will sever friendship. Perhaps it arose in the folklore of peasants who were uneducated in the use of sharp implements and had reason to think of them as inherently dangerous or malevolent. For example, in the courts of law it was the practice to underline a verdict of guilty by the turning of the edges of the guards' halberds toward the prisoner upon his condemnation.

This ancient superstition has almost disappeared, although in some lands the recipient of the gift of a pair of scissors or a knife will present a penny to the giver, traditionally a sure way of warding off the curse. However, a Danish jingle tells us specifically:

*Needles and knives
Will Love drive away
But spoons and scissors
Will Love amplify*



THE CUTLER.

1. UNDER the head of cutlery, is comprehended a great variety of instruments designed for cutting and penetration, and the business of fabricating them is divided into a great number of branches. Some manufacture nothing but axes; others make plane-irons and chisels; augers; saws; or carvers' tools. Others again, make smaller instruments, such as table-knives, forks, pen-knives, scissors, and razors. There are also cutlers who manufacture nothing but surgical instruments.

2. The coarser kinds of cutlery are made of blistered steel welded to iron. Tools of a better quality are made of shear steel, while the sharpest and most delicate instruments are formed of cast steel. The several processes constituting this business may be comprised in forging, tempering, and polishing; and these are performed in the order in which they are here mentioned.

3. The general method of *forging* iron and steel, in every branch of this business, is the same with that used in the common blacksmith's shop, for more ordinary purposes. The process, however, is somewhat varied, to suit the particular form of the object to be fashioned: for example; the blades and

some other parts of the scissors are formed by hammering the steel upon indented surfaces called *bosses*. The bows, which receive the finger and thumb, are made by first punching a hole in the metal, and then enlarging it by the aid of a tool called a *beak-iron*.

4. The steel, after having been forged, is soft, like iron, and to give it the requisite degree of strength under the uses to which the tools or instruments are to be exposed, it is hardened. The process by which this is effected is called *tempering*, and the degree of hardness or strength to which the steel is brought is called its *temper*, which is required to be *higher* or *lower* according to the use which is to be made of the particular instrument.

5. In giving to the different kinds of instruments the requisite temper, they are first heated to redness, and then plunged into cold water. This, however, raises the temper too high, and, if left in this condition, they would be too brittle for use. To bring them to a proper state, they are heated to a less degree of temperature, and again plunged into cold water. The degree to which they are heated, the second time, is varied according to the hardness re-

quired. That this particular point may be perfectly understood, a few examples will be given.

6. Lancets are raised to 430 degrees Fahrenheit. The temperature is indicated by a pale colour, slightly inclined to yellow. At 450 degrees, a pale straw-colour appears, which is found suitable for the best razors and surgical instruments. At 470 degrees, a full yellow is produced, which is suitable for pen-knives, common razors, &c. At 490 degrees, a brown colour appears, which is the indication of a temper proper for shears, scissors, garden hoes, and chisels intended for cutting cold iron.

7. At 510 degrees, the brown becomes dappled with purple spots, which shows the proper heat for tempering axes, common chisels, plane-irons, &c. At 530 degrees, a purple colour is established, and this temperature is proper for table-knives and large shears. At 550 degrees, a bright blue appears, which is proper for swords and watch springs. At 560 degrees, the colour is full blue, and this is used for fine saws, augers, &c. At 600 degrees, a dark blue approaching black settles upon the metal, which indicates the softest of all the grades of temper, used only for the larger kinds of saws.

8. Other methods of determining the degree of temperature at which the different kinds of cutlery are to be immersed, a second time, in cold water, are also practised. By one method, the pieces of steel are covered with tallow or oil, or put into a vessel containing one of these substances, and heated over a moderate fire. The appearance of the smoke indicates the degree of heat to which it may have been raised. A more accurate method is found in the employment of a fluid medium, the temperature of which can be regulated by a thermometer. Thus oil, which boils at 600 degrees, may be employed for this purpose, at any degree of heat which is below that number.

9. The *grinding* of cutlery is effected on cylindrical stones of various kinds, among which freestone is the most common. These are made to revolve with prodigious velocity, by means of machinery. The operation is therefore quickly performed. The *polishing* is commonly effected by using, first, a wheel of wood; then, one of pewter; and, lastly, one covered with buff leather sprinkled with an impure oxide of iron, called *colcothar* or *crocus*. The edges are set with either hones or whetstones, or with both, according to the degree of keenness required.

10. Almost every description of cutlery requires a handle of some sort; but the nature of the materials, as well as the form and mode of application, will be readily understood by a little attention to the various articles of this kind which daily fall in our way.

11. A process has been invented, by which edge tools, nails, &c., made of cast iron, may be converted into good steel. It consists in stratifying the articles with the oxide of iron, in a metallic cylinder, and then submitting the whole to a regular heat, in a furnace built for the purpose. This kind of cutlery, however, will not bear a very fine edge.

12. The sword and the knife were probably the first instruments fabricated from iron, and they still continue to be leading subjects of demand, in all parts of the world. The most celebrated swords of antiquity were made at Damascus, in Syria. These weapons never broke in the hardest conflicts, and were capable of cutting through steel armour without sustaining injury.

13. The fork, as applied in eating, is an invention comparatively modern. It appears to have had its origin in Italy, probably in the fourteenth century; but it was not introduced into England, until the reign of James the First, in the first quarter of the seventeenth. Its use was, at first, the subject of much ridicule and opposition.

14. Before the introduction of the fork, a piece of paper, or something in place of it, was commonly wrapped round some convenient projection of the piece to be carved; and, at this place, the operator placed one hand, while he used the knife with the other. The carver cut the mass of meat into slices or suitable portions, and laid them upon the large slices of bread which had been piled up near the platter, or carving dish, and which, after having been thus served, were handed about the table, as we now distribute the plates.

15. The knives used at table were pointed, that the food might be taken upon them, as upon a fork; and knives of the same shape are still common on the continent of Europe. Round-topped knives were not adopted in Paris, until after the banishment of Napoleon Bonaparte to Elba, in 1815, when everything English became fashionable in that city.

16. In France, before the revolution of 1789, it was customary for every gentleman, when invited to dinner, to send his knife and fork before him, by a servant; or, if he had no servant, he carried them himself, in his breeches pocket. A few of the ancient regime still continue the old custom. The peasantry of the Tyrol, and of some parts of Germany and Switzerland, generally carry about them a case, containing a knife and fork, and a spoon.

17. The use of the fork, for a long time, was considered so great a luxury, that the members of many of the monastic orders were forbidden to indulge in it. The Turks and Asiatics use no forks, even to this day. The Chinese employ, instead of this instrument, two small sticks, which they hold in the same hand, between different fingers.

18. The manufacture of cutlery is carried on most extensively in England, at Birmingham, Sheffield, Walsall, Wolverhampton and London. London cutlery has the reputation of being the best, and this circumstance induces the dealers in that city, to affix the London mark to articles made at other places. In the United States, there are many establishments for the fabrication of the coarser kinds of cutlery, such as axes, plane-irons, saws, hoes, scythes, &c., but for the finer descriptions of cutting instruments, we are chiefly dependant on Europe.

CHAPTER THREE

THE MODERN CHAPTER in the history of J. Wiss & Sons Co. begins at the turn of the century with the addition of drop-forging equipment which, for the first time, permitted the manufacture of quality shears and scissors that were virtually indestructible.

As soon as this method of fabrication was perfected and shears and scissors made in this way were being produced in quantities, Mr. Wiss started national advertising. One of the earliest national advertisements of which the Company has a record appeared in *The Ladies' Home Journal* in 1906. The Wiss Company has been a consistent national advertiser ever since that time and, in fact, was for many decades the only cutlery manufacturer investing in national advertising in the general magazines of large circulation. A large number of discerning buyers owned Wiss shears and scissors, but the major portion of Wiss sales in the 90's was to cutlers and grinders who sold them to tailors, dressmakers, and milliners. About this time Frederick C. J. and his brother Louis decided to clear the sales channels to the consumer market. The principal outlets to this market were the hardware and cutlery stores.



Animal figures enliven these Austrian scissors; shown at Paris in 1900.

At the turn of the Twentieth Century drop-forging equipment permitted, for the first time, the manufacture of quality shears and scissors that were virtually indestructible.



Most of the lower-priced shears of the period were imported from England and Germany. Stores were at first dubious of stocking the superior Wiss products, but when the Wiss sales campaign was supported by national advertising and a national demand, stores began to display the Wiss brand on counters and in show windows throughout the country. In this same period Wiss was also making fine quality metal-cutting snips which were sold only with great difficulty because of strong, established competitive merchandising methods. Within five short years, however, quality had prevailed and Wiss had become the acknowledged leading manufacturer of high-grade snips with an inlaid cutting edge.

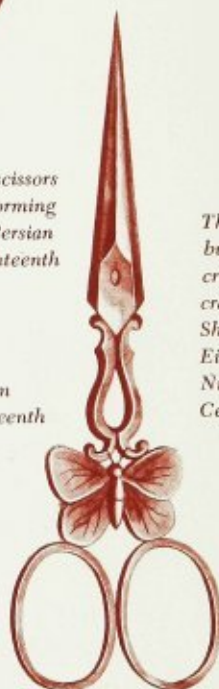
When, in 1914, J. Wiss & Sons Co. bought out the facilities of R. Heinisch Sons Company, it became the largest producer of fine shears and scissors in the world. Production rose to great heights, due not only to normal increases in domestic sales, but to the approach of World War I, and the swift decline in imports from the European cutlery centers of Shef-



Bird-shaped scissors with blades forming the beak are Persian in origin, Eighteenth Century.



Shears of Siam (Thai). Nineteenth Century.



The English butterfly scissors created by the craftsmen of Sheffield, Eighteenth - Nineteenth Century.



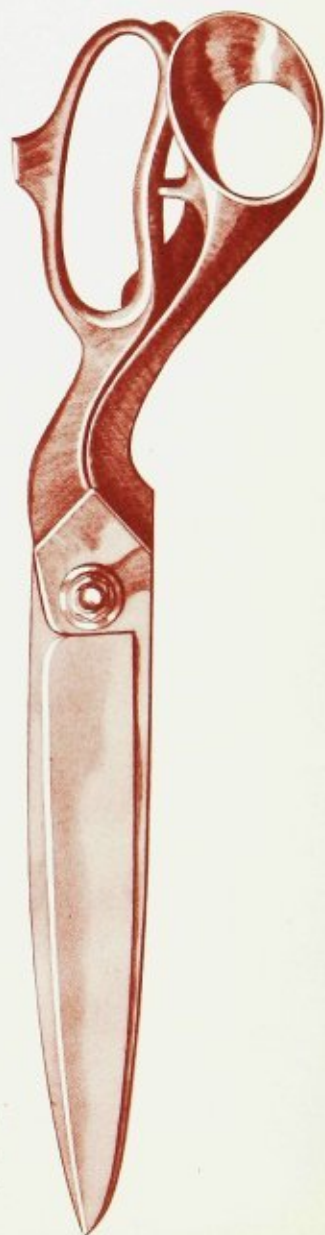
Curious Japanese scissors of the Nineteenth Century with fern etched handles and grooved blades.



Ornamental Persian scissors with long tapered blades, Nineteenth Century.

field, England, and Solingen, Germany which diverted orders to American cutlery. Naturally, a major volume of this business came to Wiss. The war effort strained the productive capacity of the Wiss plants, and the demand for Wiss shears carried over into 1920. The following year brought a disastrous shock to the entire cutlery industry, when Germany was allowed to dump scissors in America duty-free at prices less than half those prevailing in the States. This policy was part of a mistaken idea that the best way to help the defeated enemy pay its war debts and reparation costs was at the expense of domestic manufacturers. The year 1921 witnessed a brief and severe depression, bringing with it a general collapse of prices in all lines of business. A large number of manufacturers who had expanded their plant facilities to serve the war program could not retrench in time, and lacking sufficient financial reserves, went down with heavy losses to suppliers and stockholders, as well as losses in jobs to thousands of workers.

J. Wiss & Sons Co. weathered the lean years, and with the protection afforded by the tariffs of 1923 regained considerable lost ground. However, the market had been seriously damaged by the glut of cheap goods, and the price-conscious public was reluctant to pay the necessary price of quality cutlery. Where Wiss turned to the hardware stores twenty years earlier, it now also gave attention to the department stores of the nation as a desirable type of outlet. Department stores after World War I had grown not only in size and number, but in variety of departments. Where many stores featured only "soft" goods; that is, textiles and home furnishings, the larger stores had added many departments featuring "hard" goods, or merchandise fabricated from metal. Some of these stores were more conscious of the price of the scissors and shears they sold than of their quality. It took much sales effort on the part of the Wiss Co. to convince buyers that the higher priced drop-forged Wiss products were more profitable and more satisfactory to sell than the low-priced shears and scissors of inferior quality. As favorable experiences multiplied, however, one store after another set up a Wiss counter display and learned that American buyers wanted quality and were dissatisfied with cutting



Heavy bent-handle and molded-grip shears used by the "cutters," specialists employed by French dressmaking establishments, Nineteenth Century.

FREDERICK C. J. WISS
succeeded his father,
Jacob.



Founder
JACOB WISS.



tools which could not be depended upon to perform properly the tasks for which they were intended. The inferior products would not hold an edge, the pivot screw loosened or bound, the handles pinched, or the blades snapped under pressure, or, most serious of all, spoiled the material their cutting was intended to improve. Meanwhile, the other Wiss products sold in expanding volume. Every gardener today knows the merit of Wiss hedge, grass, and pruning shears; every electrician, plumber, and tinsmith knows the superior quality of Wiss metal-cutting snips; and every garment worker recognizes the Wiss trademark as a guarantee of fine shears and scissors.

Many different industries have come to rely upon Wiss shears for production; there is an imposing list of businesses which have been using Wiss shears for 50 years and more. Shears bearing the Wiss name are standard equipment in the automotive and electrical industries; manufacturers of rubber tires, shoes, carpets, and rugs have also found that Wiss shears last longer and cut better. The fruit growing industry uses Wiss cutters both for pruning and harvesting and every year thousands of pickers in the citrus belts of California, Florida, and Texas go out equipped with Wiss orange and lemon clippers. Under the management of Frederick C. J. Wiss, the business won pre-eminence in its field.

Frederick died on October 9th, 1931, leaving three children: J. Robert Wiss, the oldest, now president of the Company; Norman F. Wiss, vice president and treasurer; and a daughter, Mrs. W. Denton Taylor. Louis T. Wiss, who died in 1908, is survived by two children: Jerome B. Wiss, secretary of the Company; and a daughter, Mrs. Frederick C. Sinon, assistant secretary. The fourth generation is represented by: the son of J. Robert Wiss, Richard R. Wiss, assistant treasurer and assistant plant manager; the three sons of Norman F. Wiss: Norman, Jr., Kenneth and Frederick; and by Frederick W. Sinon, the grandson of Louis T. Wiss. The Wiss father and son tradition is found in the personnel also, with the same family name appearing on Company records for several generations. The roster includes more than fifty fathers and sons. The Wiss craftsmen stand in high esteem with the management for they have inherited not only an individual skill in their art, but also



LOUIS T. WISS,
Frederick's brother
and partner.



J. ROBERT WISS,
President,
son of Frederick.



NORMAN F. WISS,
Vice-President,
and Treasurer,
son of Frederick.



JEROME B. WISS,
Secretary,
son of Louis T. Wiss.

the integrity traditional with artisans of their craft. This is why the Wiss salesmen, traveling around the country, always receive a welcome.

During World War II, the shortage of high-grade steel and the enormous demand for Wiss products by the Government and war industries made it difficult to apportion satisfactorily the few scissors and shears left over for the public. Wiss snips played their part in the manufacture of tanks; shears in the making of uniforms and protective coverings. Pinking shears were used in the manufacture of airplanes. Cuticle scissors were used in the making of radar and radio equipment, as were nail scissors, which, in addition, were often used for bartering with natives in remote parts of the world where the value of American money was not as readily apparent. Curved-blade snips were used in the shipyards; even pruning shears were used for the preparation of poultry for overseas shipment. All kinds of surgical scissors bearing the Wiss name were also much in demand. Unlike the post-World War I era, the prospect of a glut of foreign goods, low-grade and duty-free, is remote at this time. High-grade carbon steel, of the quality necessary for drop forging under the Wiss hammers, is still in short supply, and the demand for all lines of Wiss scissors and shears for home and industrial use continues in excess of production.

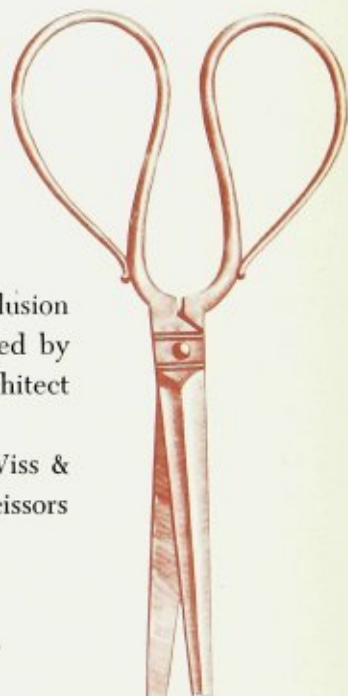
The outlook for Wiss-labeled goods at the threshold of a second century is bright. The current management is alert to its responsibilities in maintaining a tradition of quality in merchandise and astuteness in sales promotion. Today, the name of Wiss appears on a large proportion of the fine shears, scissors, and snips manufactured in America. It is the intention of those at the helm of J. Wiss & Sons Co. at the conclusion of its first century to maintain the tested policies of success formulated by Jacob Wiss, the founder, and developed by Frederick C. J. Wiss, the architect of the firm's expanding fortunes.

So long as free enterprise survives in a world of free people, J. Wiss & Sons Co. expects to continue to make the finest quality shears and scissors and sell them all over the world.



*Wiss salesmen
cover the country.*

*Curved handles and
squared blades
characterized the
Nineteenth Century
scissors of the Anna-
mese of the French
protectorate of Annam
on the China Sea.*

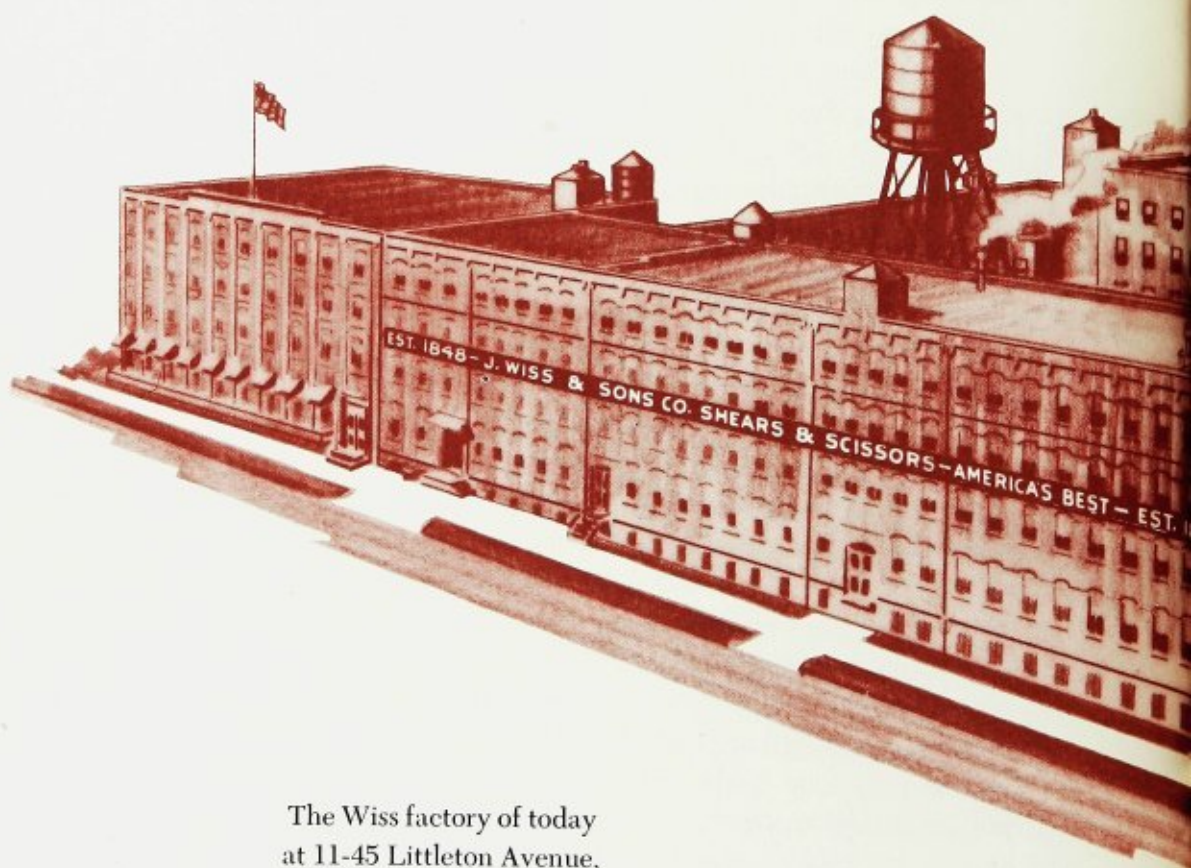


*"There goes but a pair of shears between them.
They match each other as though from the same cloth."*

OLD PROVERB

*"Comes the blind fury with Th' abhorred shears
And slits the thin-spun life."*

MILTON, *Lycidas*

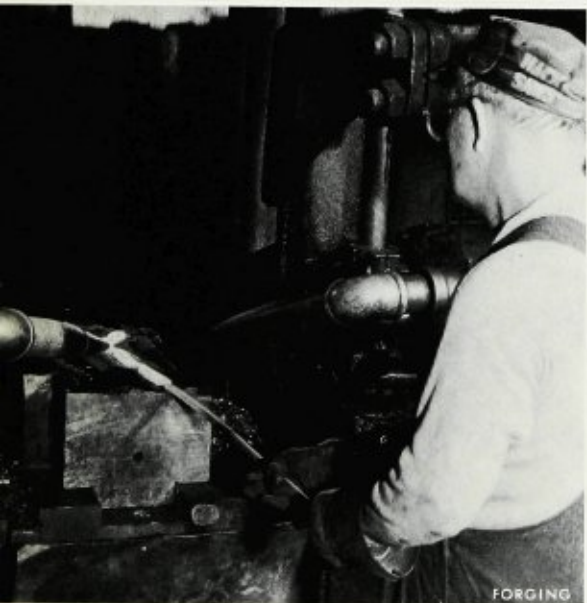


The Wiss factory of today
at 11-45 Littleton Avenue,
Newark, N. J.





HE MANUFACTURE OF WISS SCISSORS AND SHEARS TODAY



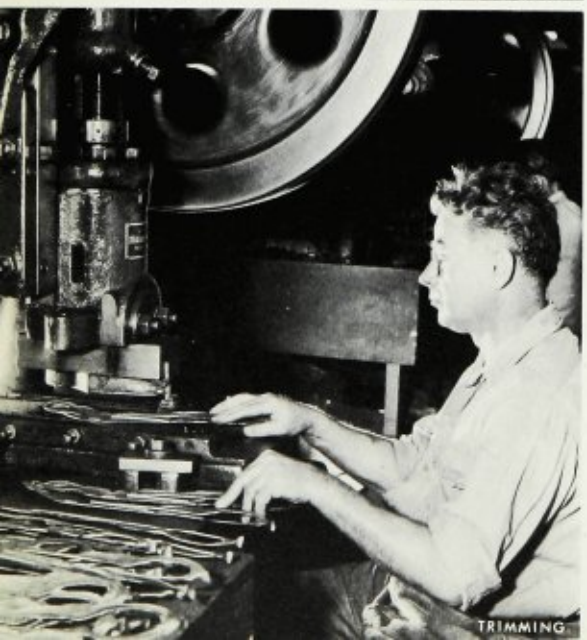
THE MANUFACTURE of fine quality scissors and shears is a manual rather than a mechanical art. Continuous training of apprentices is required in order to assure the maintenance of a high level of individual hand-craftsmanship and expertness in a number of operations calling for specialized skills. Fully seventy-five percent of the processes involved depends on manual craftsmanship.

Scissors range in size from three inches to six inches in length and are designed to do the lighter tasks of hand cutting.

Shears are manufactured in sizes ranging from six to sixteen inches and are made to do the great variety of heavier cutting jobs in the home and in industry.

Snips are made to cut metal and will cut sheets up to 18-gauge, about the thickest sheet-metal that can be cut manually.

Fabrication of Wiss scissors and shears may be divided into two general classifications: 1) Shears and snips which have high carbon cutlery steel edges welded to forged steel frames. 2) Solid steel scissors, garden shears and snips which are forged from a single steel bar in one piece.



On the average, there are approximately 176 operations required in the manufacture of a pair of shears and about the same procedure is called for in making a pair of scissors, except that the welding process is omitted. The same precise handling and care are accorded the lighter products to the end that the brand name "Wiss" on either scissors or shears will continue to denote unqualified perfection and the avowed aim of the Company to insure the capability of each of its products to serve with maximum satisfaction the particular function for which it was made.

Die and tool making, forging, grinding, heat treating, polishing and finishing, which occur in that order, are the principal operations in the manufacture of scissors and shears. Each operation determines the success of the one to follow, for a defection at any point along the line will affect the final quality of the finished product.

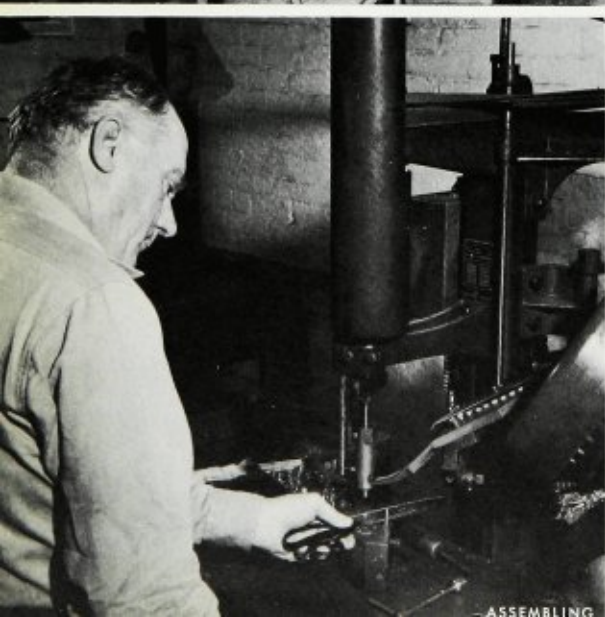
Die making, the first operation, is one of the most important of the processes and one which requires the highest skill. In making a die for a pair of shears, for example, the form of the shears is first sculptured, partly by hand and partly by specialized machinery, out of a solid block of steel, sometimes weighing as much as 500 pounds.



BLADE
STRAIGHTENING



HEAT TREATING



Forging requires the use of power hammers weighing from 300 to 2,500 pounds. In this operation, red hot bars of cutlery steel are drawn and forged in the dies after which the excess stock is sheared off and the forgings are further prepared for the welding of crucible steel cutting edges. After the welding operation, excess steel is again trimmed off and a long succession of grinding and fitting operations prepares the shears for heat treating.

In the heat treating process each blade must be hardened and tempered and uniformity must be absolute to insure the long-lasting cutting edges for which Wiss products are famous. Frequent inspection, following the application of precision instruments, is required to attain the necessary uniformity and all grinding is held within exacting specifications to prevent the drawing off of temper. Moreover, all Wiss welded shear and snip blades are individually matched so as to maintain the necessary standards of hardness similarity. No method of manufacturing employing interchangeable blades would provide the perfection achieved by the Wiss method of assembly in which matching numbers are used on the blades. These numbers can always be found on the inside of each blade at the screw hole.



FINISHING



FINISHING

NUMEROUS specialized polishing operations prepare the shears for plating, after which they advance to the finishing department where the mates are reassembled, adjusted and tested by highly skilled artisans. The finishing operation involves a regular series of twisting, bending and peening operations which bring the blades into exact permanent alignment.

Each shear blade is constructed from the forging stage with a longitudinal twist from heel to point which, when two blades are properly pivoted together, insures what is known as shear stress, or the equal pressure of each blade upon the other from the back of the blades to the points.

It is particularly important for each blade to be accurately drilled for the screw which holds them together. These screws must be fabricated to watchmaker accuracy, not attainable from commercial runs. Wiss, therefore, maintains its own screw department where screws, made with the necessary precision and quality, are continuously produced.

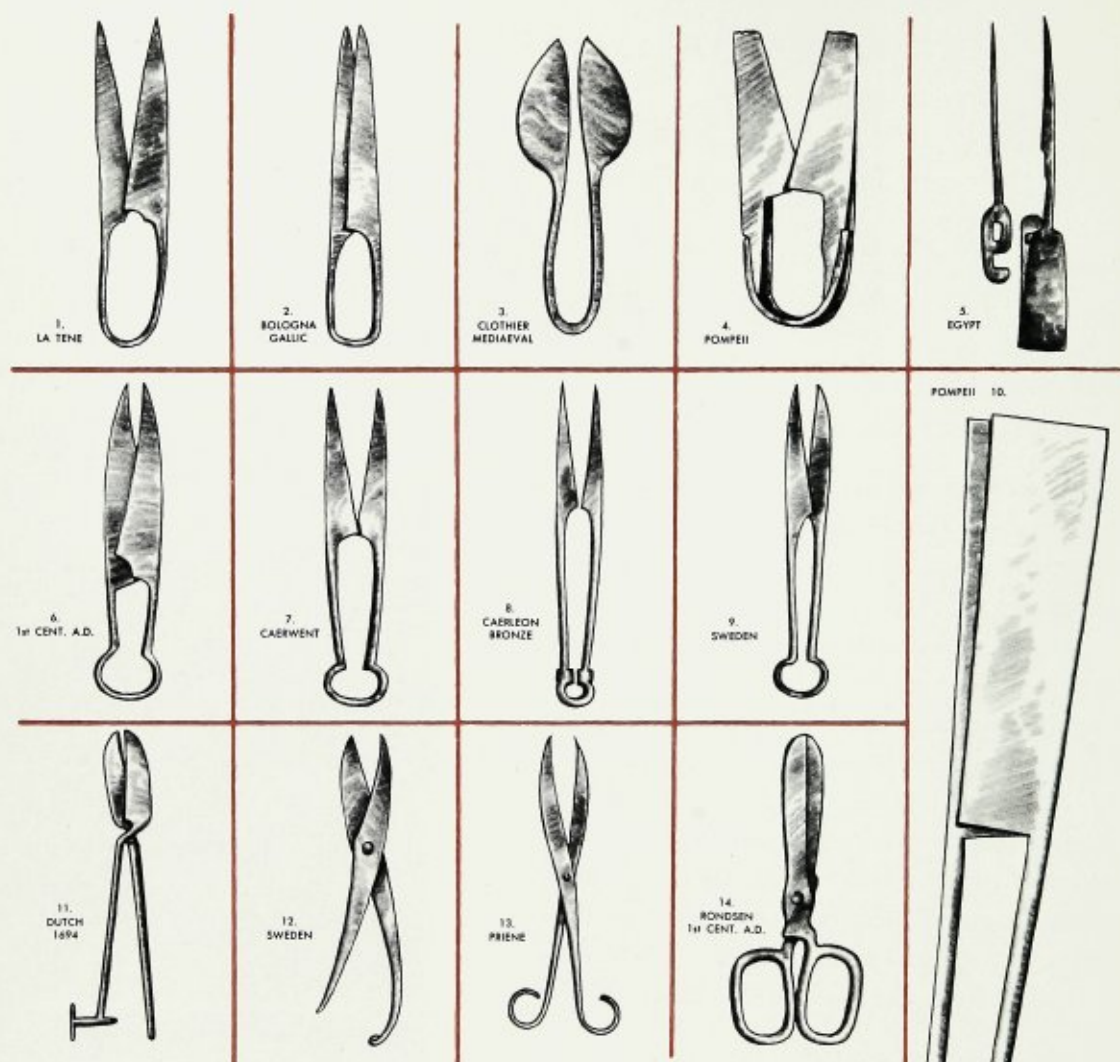


TESTING



FINAL INSPECTION

Examples of Early Shears and Scissors



The earliest known shears are those from the La Tene period, (Circa Third Century B.C.), (Fig. 1) and from Bologna in tombs of the Gallic age, pre-222 B.C., (Fig. 2). The plain curved spring was usual to the medieval period, 500-1400 A.D., (Fig. 3). In Pompeii, First Century and earlier, blades of iron were riveted to a bronze spring (Fig. 4). Peculiar to Egypt were shears, the blades of which could be disengaged for sharpening separately (Fig. 5). The wish to get more range for the spring, so as to equalize the force of it without increasing the width beyond the grip of the hand, led to the expanded spring, (Sixteenth Century), where the blades are brought closer together for the grip (Figs. 6-9). The great shears (Fig. 10), are believed to have figured in ceremonial rather than every day usage because of their size, perhaps carried as a symbol in sheep-shearing festivals. Two-handed Dutch tinman's shears, 1694, (Fig. 11) are forerunners of modern snips, rare in their time. Swedish tools for the same purpose (Fig. 12) are two-handed and considered to be shears, though the blades are of scissors form. Scissors from Priene, worked by separate fingers, are attributed to the Roman Age (Second Century B.C.), (Fig. 13). This type of scissors was not in use earlier than the First Century (Fig. 14).

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- SAMSON AND DELILAH, Van Dyck, A., (C. 1630), Art History Museum, Vienna. (Metropolitan Museum of Art)
- SAMSON AND DELILAH, Turchi, A., (1582-1650), Louvre, Paris. (Metropolitan Museum of Art)

List of Outstanding Paintings SHOWING SHEARS and SCISSORS (*continued*)

OLD WOMAN CUTTING HER NAILS, Rembrandt, (1606-1669), dated 1648. (Metropolitan Museum of Art)

A TAILOR'S WORKSHOP (painted in 1661), Brekeleakam, Rijks Museum, Amsterdam. (Metropolitan Museum of Art)

CUTTING OF SAMSON'S HAIR, dePoorter, W., (painted C. 1640), Kaiser Friedrich Museum, Berlin. (Metropolitan Museum of Art)

THE BAKE'S PROGRESS (1) THE HEIR, (C. 1734), Hogarth, W., Soane Museum, London. (Metropolitan Museum of Art)

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Aviation Snips

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Blueprint Shears
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Bookbinders' Shears
Bulldog Snips
Buttonhole Scissors
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C

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Tailors' Points
Tailors' Shears
Thinning Shears, Grape
Tinners' Snips
Tube Filament Cutters

U

Upholsterers' Shears

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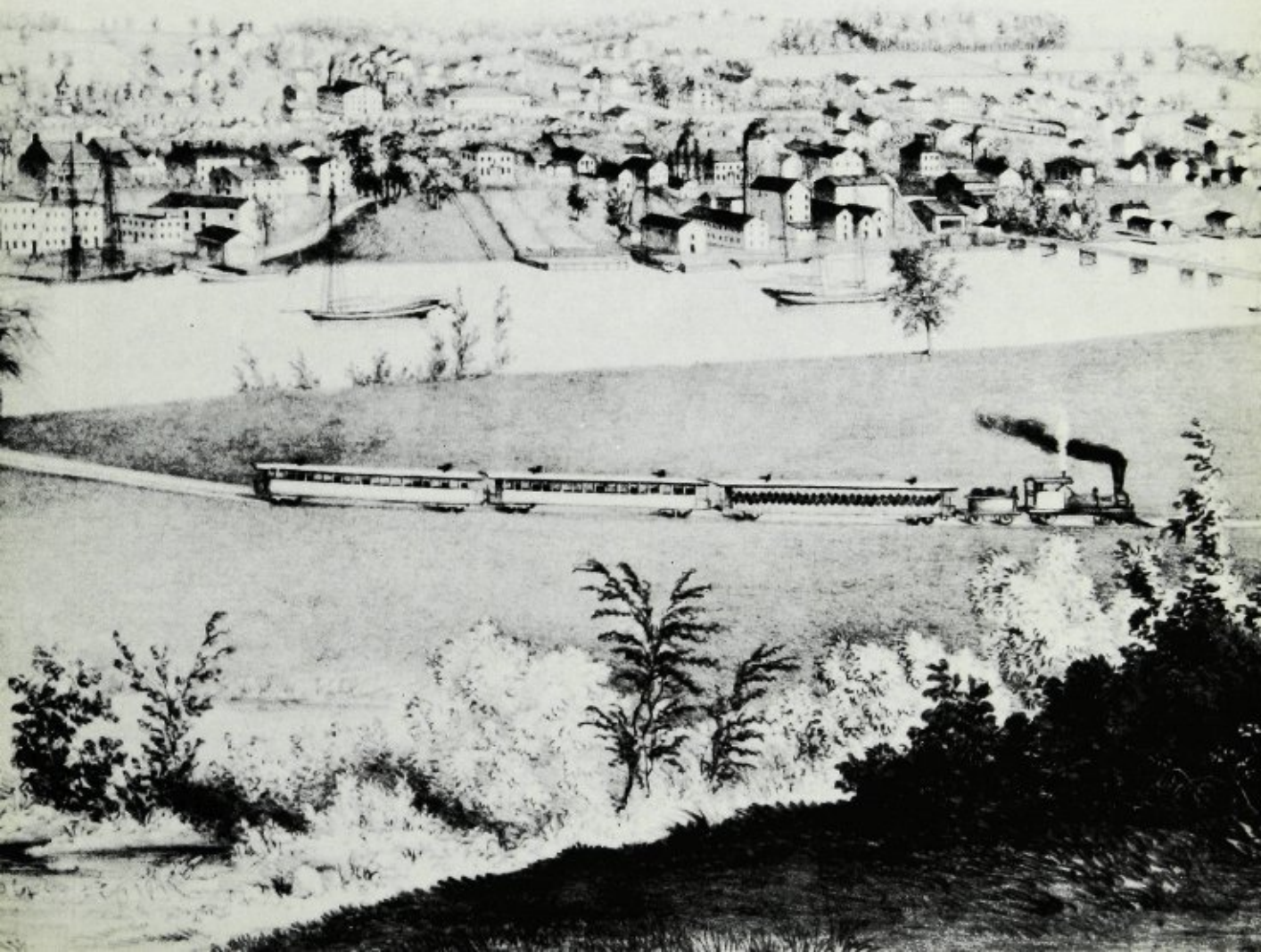
Wallpaper Shears





View of
NEWARK, N. J.
from the North
IN 1847

AS JACOB WISS FIRST SAW IT
Courtesy of the Newark Public Library



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